REMARKS

The present application was filed on February 28, 2002 with claims 1-22. Claims 1-22 remain pending. Claims 1, 16, 17, 21 and 22 are the independent claims.

Claims 1-15 and 18-20 stand rejected under 35 U.S.C. §103(a) over Patent No. 5,712,851 (hereinafter "Nguyen") in view of U.S. Patent No. 6,661,774 (hereinafter "Lauffenburger") and U.S. Patent No. 6,477,168 (hereinafter "Delp").

Claims 16 and 17 are allowed.

Claims 21 and 22 stand rejected under 35 U.S.C. §103(a) over Nguyen in view of Delp.

Claim 22 is objected to due to an informality.

In this response, Applicants traverse the §103(a) rejections, amend claim 22, and request reconsideration in light of the remarks below.

Applicants respectfully traverse the objection to claim 22 and respectfully submit that the recited article of manufacture comprising a machine-readable storage medium for use in conjunction with a processor, the medium storing one or more software programs that, when executed, perform one or more steps producing a concrete, useful, and tangible result, constitutes a proper claim of statutory subject matter. See, e.g., In re Beauregard, 53 F.3d 1583, 35 USPQ2d 1383 (Fed. Cir. 1995); In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994). Notwithstanding the traversal, Applicants have amended independent claim 22 without prejudice, solely in order to expedite prosecution of the application. The claim as amended recites a computer-readable storage medium, rather than a machine-readable storage medium as in its previously-presented form.

Applicants submit that the Nguyen, Lauffenburger and Delp references collectively fail to teach or suggest the limitations of independent claims 1, 21 and 22. For example, the collective disclosure of Nguyen, Lauffenburger and Delp fails to teach or suggest "substantially maintain[ing] the traffic shaping requirement established by the traffic shaping circuitry in the presence of collisions between requests from the transmission elements for each of one or more of the time slots . . . by moving at least one entry from a first location within the at least one time slot table to a second location within the at least one time slot table," as recited in independent claims 1, 21 and 22.

9

In formulating the rejection, the Examiner acknowledges that neither Nguyen nor Lauffenburger disclose the above-quoted limitation, but argues that it is met by the teachings in Delp at column 6, lines 48-62. However, the limitation in question entails not merely moving at least one entry within a time slot table, but rather doing so in order to maintain a traffic shaping requirement in the presence of collisions between requests from transmission elements for each of one or more time slots.

Applicants respectfully submit that the relied-upon portion of Delp does not disclose moving an entry from one location of a time slot table to another in the presence of collisions between requests from the transmission elements and thus fails to teach or suggest the claim limitation. For example, Delp in conjunction with step 604 of FIG. 6 teaches to move a current time slot to a next time slot when no logical channel descriptor (LCD) is ready to be transmitted during the current time slot. Also, Delp in conjunction with step 606 of FIG. 6 teaches to reschedule an LCD responsive to a successful transmission. Neither of these operations involves moving an entry from one location of a time slot table to another in the presence of collisions between requests from the transmission elements, so as to substantially maintain a traffic shaping requirement, as recited in the independent claims of the present application.

With regard to the operation in step 604, Delp at column 6, lines 54-56 discloses "[w]hen an active bit ON for the current time is not identified, then a move to a next time slot is provided using one of multiple possible methods as indicated at a block 604" and at column 6, line 66 – column 7, line 4 discloses that, following a transmission, "when the next pointer is not active . . . a move to next time slot is performed at block 604." Thus, the "move to a next time slot" is performed only when an active bit is not set, indicating that no LCD is ready to be transmitted during that time slot and that the next time slot should be examined to see if any LCDs are ready to transmitted during that time. This corresponds with Delp, column 7, lines 6-32, which describes FIG. 7 as showing "exemplary steps for the move to the next time," which are performed only if the current time slot is empty.

With regard to the operation in step 606, Delp at column 6, lines 58-62 discloses that "when an active bit for the current time is identified, then the first LCD is prepared for transmission (TX), a next pointer from the LCD is saved and the LCD is rescheduled using one of multiple possible methods as indicated at a block 606." This rescheduling corresponds to the

10

"comput[ing] the next time that this LCD has to be enqueued on the timing wheel" following "send[ing] out this cell or frame" as part of the "basic scheduling algorithm of cell/frame scheduler 102" discussed in Delp at column 6, lines 4-12. Applicants further submit that this corresponds to the "calculation of a new time stamp and a new time slot by the cell/frame scheduler 102" illustrated in FIG. 7A and in the column 7, lines 33-53. As noted above, this move to another timeslot occurs only after a successful transmission and not in conjunction with collisions.

Accordingly, neither of the operations in steps 604 or 606 in Delp corresponds to the limitation of moving at least one entry in order to maintain a traffic shaping requirement in the presence of collisions between requests from the transmission elements for each of one or more time shots. The Nguyen and Lauffenburger references fail to supplement this fundamental deficiency of Delp. Accordingly, the limitation at issue is not taught or suggested by the proposed combination of references.

Dependent claims 2-20 are believed allowable for at least the reasons identified above with regard to claim 1. Furthermore, one or more of these claims are believed to define additional patentable subject matter in their own right.

For example, in addition to being allowable for the reasons identified above with regard to claim 1, the additional limitations contained in dependent claims 11 and 15 regarding the use of a free pointer are neither taught nor suggested by the prior art cited by the examiner. The Nguyen reference relied on by the Examiner in the rejection of claims 11 and 15 not only fails to disclose the use of a free pointer in the suggested manner, as conceded by the Examiner, but in fact actively teaches away from any use of a free pointer. See Nguyen at column 5, lines 22-29, which states as follows, with emphasis supplied: "[A] mechanism is introduced to 'look ahead' for empty cells. The look ahead mechanism requires that . . . the scheduler should . . . remember the first non-empty slot." In other words, Nguyen suggests storing a pointer to the first non-empty cell rather than the first empty cell.

The Examiner relies on official notice without any evidentiary support for any use of a free pointer, much less the use of a free pointer in the manner claimed, as the primary grounds to reject claims 11 and 15. MPEP 2144.03 states that "It is never appropriate to rely solely on common knowledge in the art without evidentiary support in the record as the principal evidence

upon which a rejection was based." Applicants respectfully submit that the application of official notice to reject claims 11 and 15, in the absence of any evidentiary showing, fails to comply with this instruction. Applicants respectfully submits that, for each invocation of official notice, Examiner provide either documentary evidence or an affidavit or declaration setting forth specific factual statements and explanation to support the finding, as required by 37 C.F.R. §1.04(d)(2), in order for such a rejection to be maintained.

Applicants further submit that the limitation of claim 15 that states "wherein if the current pointer and the free pointer point to the same location in the time slot table and the actual pointer points to a different location in the time slot table, then the current pointer and the free pointer are both incremented to coincide with the actual pointer" is neither taught nor suggested by the combined references which fail to disclose any use of a free pointer at all. Moreover, Nguyen contains a further teaching away from the claim limitations. See Nguyen at column 5, lines 9-30, which states as follows, with emphasis supplied: "[W]hen the scheduler encounters an empty slot . . . . [and] the scheduler is backlogged, the scheduler should read the slots at the CCTP [current cell time pointer] and remember the first non-empty slot. When the current slot is serviced, the CSP [current slot pointer] of the scheduler should jump to this position." Accepting for the sake of argument Examiner's contention that the CCTP and CSP of Nguyen correspond to an actual pointer and current pointer, respectively (see the final Office Action at pages 6-7), Nguyen teaches that if the current pointer points to an empty slot (which would be the same as the free pointer if Nguyen implemented one) and the scheduler is backlogged (i.e., where the actual pointer points to different location in the time slot table than the current pointer, see Nguyen at column 4, lines 62-67), the actual pointer jumps to the position of the current pointer. This is diametrically opposed to the limitation of claim 15, wherein the current pointer and free pointer are both incremented to coincide with the actual pointer under similar circumstances.

Furthermore, with regard to motivation to modify Nguyen to meet the limitations of claim 15, the Examiner provides the following statement in the final Office Action at pages 7-8:
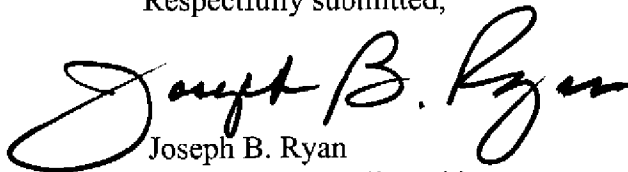
> It would have been obvious to one skilled in the art to increment a current pointer and free pointer to coincide with an actual pointer, if the current pointer and the free pointer point to the same location in the time slot table and the actual pointer points to a different location in the time slot table, since both the current and free pointer indicates the next slot to be transmitted and the actual pointer indicates the

actual slot transmitting at that time. Thus, all pointers are pointing to a transmitting slot.

Applicants respectfully submit that the proffered statement fails to provide sufficient objective motivation for the combination. The Federal Circuit has stated that when patentability turns on the question of obviousness, the obviousness determination "must be based on objective evidence of record" and that "this precedent has been reinforced in myriad decisions, and cannot be dispensed with." In re Sang-Su Lee, 277 F.3d 1338, 1343 (Fed. Cir. 2002). Moreover, the Federal Circuit has stated that "conclusory statements" by an Examiner fail to adequately address the factual question of motivation, which is material to patentability and cannot be resolved "on subjective belief and unknown authority." Id. at 1343-1344. The statement listed above is believed to be a conclusory statement based on the type of "subjective belief and unknown authority" that the Federal Circuit has indicated provides insufficient support for an obviousness rejection.

In view of the foregoing, Applicants believe that claims 1-22 are in condition for allowance, and respectfully request the withdrawal of all rejections.

Respectfully submitted,

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